

Appl. No. : 10/019,754
Filed : April 30, 2002

AMENDMENTS TO THE CLAIMS

1-19. (Cancelled)

20. (Currently Amended) A method for preparing ~~the an~~ artificial dura mater of Claim 3, which is formed as an integral molding of an amorphous or low crystallinity polymer and a structural reinforcement, wherein the amorphous or low crystallinity polymer and the structural reinforcement are integrated by bonding, fusion or impregnation.

the amorphous or low crystallinity polymer having a degree of crystallinity of 20% or lower,

the amorphous or low crystallinity polymer having an elastic modulus at 5% extension of 10 MPa or lower,

the amorphous or low crystallinity polymer having a Tg of 15°C or lower,

the amorphous or low crystallinity polymer having a tensile elongation at breaking of 200% or greater,

the amorphous or low crystallinity polymer has an elastic modulus at 37°C of 1×10^8 Pa or less,

the amorphous or low crystallinity polymer having a ratio of relaxation elastic modulus at 23°C/elastic modulus at 37°C of 0.3 or greater,

the structural reinforcement having an elastic modulus at 5% extension of greater than 10 MPa,

the structural reinforcement having a Tg of higher than 15°C,

the structural reinforcement having a tensile elongation at break of less than 200%, and

the amorphous or low crystallinity polymer having a weight of 10 to 98% of the total weight of the integral molding, and

the structural reinforcement having a weight of 2% or more of the total weight of the integral molding,

comprising the step of integrating the amorphous or low crystallinity polymer and a ~~the~~ structural reinforcement by bonding, fusing or impregnating to give an integrally molded artificial dura mater.

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21. (Currently Amended) A method for preparing an the artificial dura mater of Claim 3 which is formed as an integral molding of an amorphous or low crystallinity polymer and a structural reinforcement, wherein the amorphous or low crystallinity polymer and the structural reinforcement are integrated by bonding, fusion or impregnation,

the amorphous or low crystallinity polymer having a degree of crystallinity of 20% or lower,

the amorphous or low crystallinity polymer having an elastic modulus at 5% extension of 10 MPa or lower,

the amorphous or low crystallinity polymer having a Tg of 15°C or lower,

the amorphous or low crystallinity polymer having a tensile elongation at breaking of 200% or greater,

the amorphous or low crystallinity polymer has an elastic modulus at 37°C of 1 × 10⁸ Pa or less,

the amorphous or low crystallinity polymer having a ratio of relaxation elastic modulus at 23°C/elastic modulus at 37°C of 0.3 or greater,

the structural reinforcement having an elastic modulus at 5% extension of greater than 10 MPa,

the structural reinforcement having a Tg of higher than 15°C,

the structural reinforcement having a tensile elongation at break of less than 100, and

the amorphous or low crystallinity polymer having a weight of 10 to 98% of the total weight of the integral molding, and

the structural reinforcement having a weight of 2% or more of the total weight of the integral molding,

comprising the steps of:

obtaining the amorphous or low crystallinity polymer;

dissolving the polymer in a solvent to give a polymer solution;

impregnating the structural reinforcement with the polymer solution; and

removing the solvent from the impregnated structural reinforcement to form an integrated the integral molding comprising the structural reinforcement

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and the polymer without forming another layer in between, thereby forming said artificial dura mater.

22. **(Currently Amended)** A method for preparing an artificial dura mater of Claim 3 which is formed as an integral molding of an amorphous or low crystallinity polymer and a structural reinforcement, wherein the amorphous or low crystallinity polymer and the structural reinforcement are integrated by bonding, fusion or impregnation.

the amorphous or low crystallinity polymer having a degree of crystallinity of 20% or lower,

the amorphous or low crystallinity polymer having an elastic modulus at 5% extension of 10 MPa or lower,

the amorphous or low crystallinity polymer having a Tg of 15°C or lower,
the amorphous or low crystallinity polymer having a tensile elongation at breaking of 200% or greater,

the amorphous or low crystallinity polymer has an elastic modulus at 37°C of 1 × 10⁸ Pa or less,

the amorphous or low crystallinity polymer having a ratio of relaxation elastic modulus at 23°C/elastic modulus at 37°C of 0.3 or greater,

the structural reinforcement having an elastic modulus at 5% extension of greater than 10 MPa,

the structural reinforcement having a tensile elongation at break of less than 200%, and

the amorphous or low crystallinity polymer having a weight of 10 to 98% of the total weight of the integral molding, and

the structural reinforcement having a weight of 2% or more of the total weight of the integral molding,

comprising the steps of:

dissolving melting the surface of a molding of a copolymer of L-lactic acid and ε-caprolactone as the amorphous or low crystallinity polymer by spraying dioxane thereon;

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press-bonding a polyglycolic acid non-woven fabric as the structural reinforcement to the dissolved molten surface to form the an integral molding; and subjecting the integral molding to vacuum drying to give the artificial dura mater.

23. **(Currently Amended)** A method for preparing an artificial dura mater of Claim 3 which is formed as an integral molding of an amorphous or low crystallinity polymer and a structural reinforcement, wherein the amorphous or low crystallinity polymer and the structural reinforcement are integrated by bonding, fusion or impregnation,

the amorphous or low crystallinity polymer having a degree of crystallinity of 20% or lower,

the amorphous or low crystallinity polymer having an elastic modulus at 5% extension of 10 MPa or lower,

the amorphous or low crystallinity polymer having a Tg of 15°C or lower,
the amorphous or low crystallinity polymer having a tensile elongation at breaking of 200% or greater,

the amorphous or low crystallinity polymer has an elastic modulus at 37°C of 1 × 10⁸ Pa or less,

the amorphous or low crystallinity polymer having a ratio of relaxation elastic modulus at 23°C/elastic modulus at 37°C of 0.3 or greater,

the structural reinforcement having an elastic modulus at 5% extension of greater than 10 MPa,

the structural reinforcement having a Tg of higher than 15°C,

the structural reinforcement having a tensile elongation at break of less than 200%, and

the amorphous or low crystallinity polymer having a weight of 10 to 98% of the total weight of the integral molding, and the structural reinforcement having a weight of 2% or more of the total weight of the integral molding,

comprising the steps of:

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inserting a rayon non-woven fabric as the structural reinforcement between two moldings of a copolymer of L-lactic acid and ε-caprolactone as the amorphous or low crystallinity polymer to form a film;

subjecting the film to fusion pressing and fusion bonding to give the an integral molding; and

subjecting the integral molding to vacuum drying to give the artificial dura mater.

24. **(Currently Amended)** A method for preparing an artificial dura mater of Claim 3 which is formed as an integral molding of an amorphous or low crystallinity polymer and a structural reinforcement, wherein the amorphous or low crystallinity polymer and the structural reinforcement are integrated by bonding, fusion or impregnation,

the amorphous or low crystallinity polymer having a degree of crystallinity of 20% or lower,

the amorphous or low crystallinity polymer having an elastic modulus at 5% extension of 10 MPa or lower,

the amorphous or low crystallinity polymer having a Tg of 15°C or lower,

the amorphous or low crystallinity polymer having a tensile elongation at breaking of 200% or greater,

the amorphous or low crystallinity polymer has an elastic modulus at 37°C of 1 × 20⁸ Pa or less,

the amorphous or low crystallinity polymer having a ratio of relaxation elastic modulus at 23°C/elastic modulus at 37°C of 0.3 or greater,

the structural reinforcement having an elastic modulus at 5% extension of greater than 10 MPa,

the structural reinforcement having a Tg of higher than 15°C,

the structural reinforcement having a tensile elongation at break of less than 200%, and

the amorphous or low crystallinity polymer having a weight of 10 to 98% of the total weight of the integral molding, and the structural reinforcement having a weight of 2% or more of the total weight of the integral molding,

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comprising the steps of:

dissolving melting the surface of a polyglycolic acid non-woven fabric as the amorphous or low crystallinity polymer by hexafluoro-isopropanol;
press-bonding the dissolved melted non-woven fabric on soft polyurethane foam as the structural reinforcement; and

subjecting the integral molding to vacuum drying to give the artificial dura mater.

25. **(Currently Amended)** A method for preparing an artificial dura mater of Claim 3 which is formed as an integral molding of an amorphous or low crystallinity polymer and a structural reinforcement, wherein the amorphous or low crystallinity polymer and the structural reinforcement are integrated by bonding, fusion or impregnation,

the amorphous or low crystallinity polymer having a degree of crystallinity of 20% or lower,

the amorphous or low crystallinity polymer having an elastic modulus at 5% extension of 10 MPa or lower,

the amorphous or low crystallinity polymer having a Tg of 15°C or lower,

the amorphous or low crystallinity polymer having a tensile elongation at breaking of 200% or greater,

the amorphous or low crystallinity polymer has an elastic modulus at 37°C of 1 × 10⁸ Pa or less,

the amorphous or low crystallinity polymer having a ratio of relaxation elastic modulus at 23°C/elastic modulus at 37°C of 0.3 or greater,

the structural reinforcement having an elastic modulus at 5% extension of greater than 10 MPa,

the structural reinforcement having a Tg of higher than 15°C,

the structural reinforcement having a tensile elongation at break of less than 200%, and

the amorphous or low crystallinity polymer having a weight of 10 to 98% of the total weight of the integral molding, and the structural reinforcement having a weight of 2% or more of the total weight of the integral molding,

comprising the steps of:

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dissolving a polytetrafluoroethylene/propylene copolymer as the amorphous or low crystallinity polymer in a solvent to give a copolymer solution;

casting the copolymer solution on a glass plate having a rayon non-woven fabric as the structural reinforcement thereon, followed by vulcanizing air drying to form a film; and

subjecting the film to vacuum drying to give the artificial dura mater.

26. (New) The method for preparing an artificial dura mater according to claim 20, wherein the amorphous or low crystallinity polymer is biodegradable.

27. (New) The method for preparing an artificial dura mater according to claim 20, wherein the structural reinforcement is biodegradable.

28. (New) The method for preparing an artificial dura mater according to claim 20, wherein the amorphous or low crystallinity polymer is biodegradable and the structural reinforcement is nonbiodegradable.

29. (New) The method for preparing an artificial dura mater according to claim 20, wherein the amorphous or low crystallinity polymer is nonbiodegradable and the structural reinforcement is biodegradable.

30. (New) The method for preparing an artificial dura mater according to claim 21, wherein the amorphous or low crystallinity polymer is biodegradable.

31. (New) The method for preparing an artificial dura mater according to claim 21, wherein the structural reinforcement is biodegradable.

32. (New) The method for preparing an artificial dura mater according to claim 21, wherein the amorphous or low crystallinity polymer is biodegradable and the structural reinforcement is nonbiodegradable.

33. (New) The method for preparing an artificial dura mater according to claim 21, wherein the amorphous or low crystallinity polymer is nonbiodegradable and the structural reinforcement is biodegradable.